R-1865
and
R-2358
AUTOMATIC SELECTORS

Service Manual

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MODEL K

AMI

Lyric

AUTOMATIC MUSIC, INC.

AND

Continental

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CONTENTS

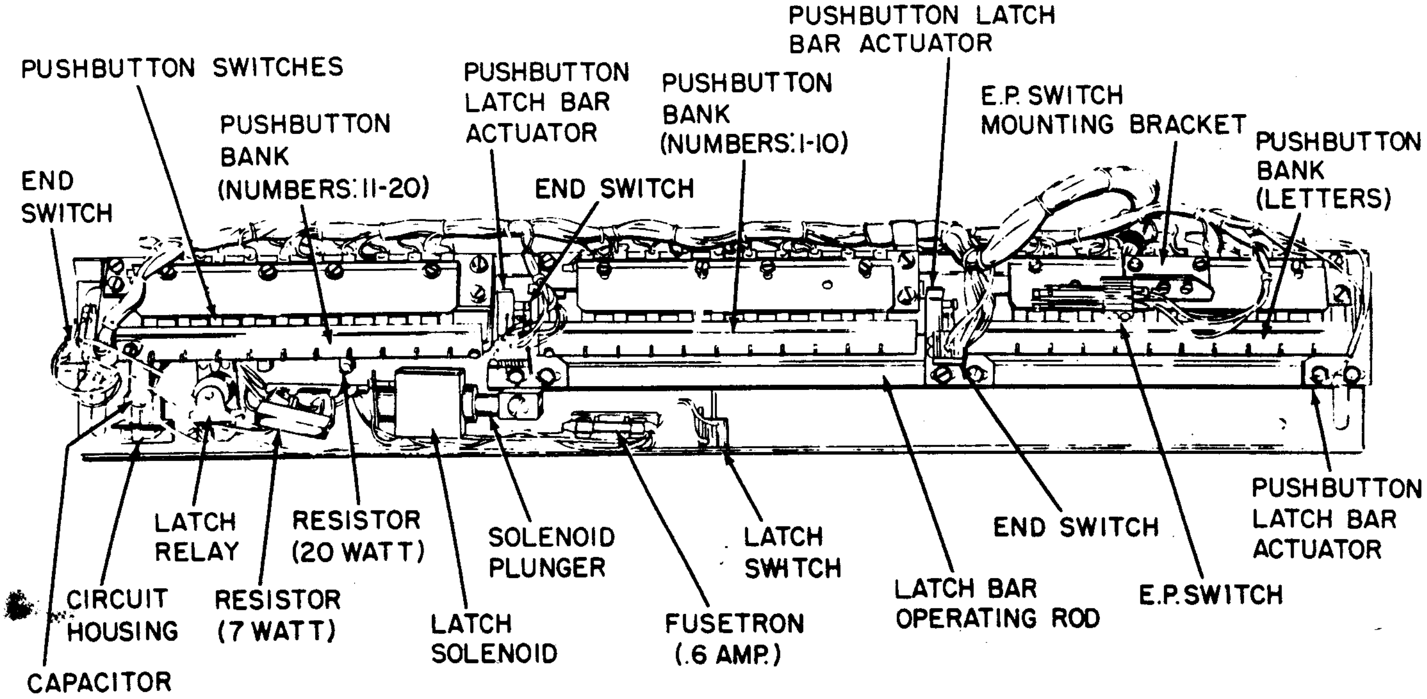
Page

SELECTORS AND COMPONENTS 4
PHONO. AND SELECTOR BREAKDOWN 5
COMPONENT FUNCTION DESCRIPTION 5
  1. LATCH SOLENOID 5
  2. LATCH RELAY 5
  3. LATCH SWITCH 5
  4. PUSHBUTTON SWITCHES 5
  5. END SWITCHES 5
  6. PUSHBUTTON RELEASE SWITCH 5
  7. E. P. SWITCH 5
REMOVING THE AUTOMATIC SELECTOR FROM THE PHONOGRAPH 5
  MODEL K REMOVAL 5
  LYRIC AND CONTINENTAL REMOVAL 6
REINSTALLING THE AUTOMATIC SELECTOR IN THE PHONOGRAPH 6
  MODEL K REINSTALLATION 6
  LYRIC AND CONTINENTAL REINSTALLATION 6

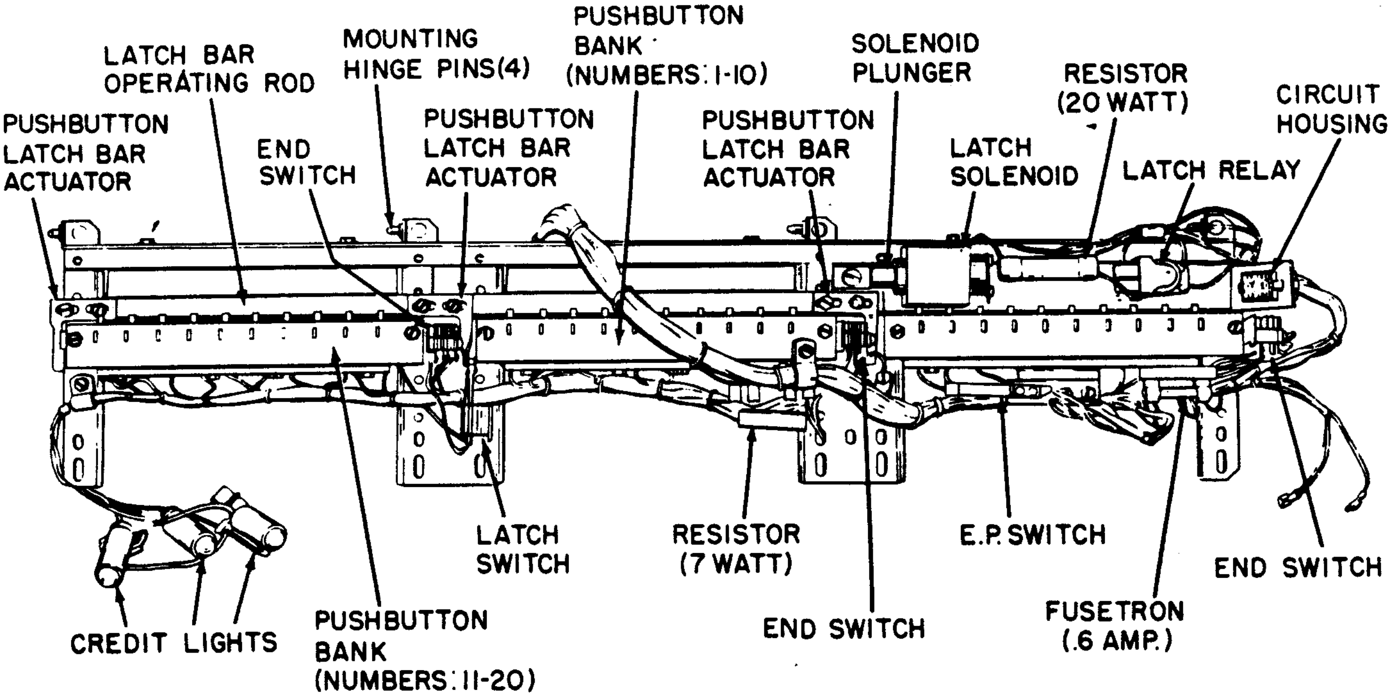
MECHANICAL ADJUSTMENTS

  1. LATCH BAR OPERATING ROD 6
  2. LATCH BARS 7
  3. LATCH SOLENOID 8
  4. LATCH SWITCH 8
  5. END SWITCHES 9
  6. E. P. SWITCH .... 9 & 10
  7. E. P. SWITCH ACTUATOR .... 9 & 10
SCHEMATIC DIAGRAMS .... 11, 12, 13 & 14
  EARLY MODEL K (R-2358-A AND R-2358-C) 11
  LATE MODEL K (R-2358-A AND R-2358-C) 12
  LYRIC AND CONTINENTAL (R-1865-A AND R-1865-B) 13
  LYRIC AND CONTINENTAL (R-1865-E AND R-1865-F) 14

COMPONENTS . . . AUTOMATIC SELECTORS



R-1865 AUTOMATIC SELECTOR



R-2358 AUTOMATIC SELECTOR

AUTOMATIC SELECTORS
R-1865-A, R-1865-B, R-2358-A, R-2358-C

Phonograph Model	Automatic Selector
K-200 Automatic	R-2358-A
K-100 Automatic	R-2358-C
Continental Automatic	R-1865-A
Lyric Automatic	R-1865-B
Continental Automatic	R-1865-E
Lyric Automatic	R-1865-F

All versions of the automatic selector are functionally the same. They differ only in the physical arrangement of the parts and in the way they are mounted in the phonographs.

Operation of the complete automatic selector can be best understood by an analysis of the function of each of its parts.

1. LATCH SOLENOID

This solenoid controls the latching and unlatching of the pushbuttons. In the "stand-by" condition of the machine, the latch solenoid's plunger is pulled in and the pushbuttons are free — that is, they can be pushed in but they will not latch. When credit is established in the credit unit, the latch solenoid is turned off and the pushbuttons will latch in when they are depressed.

2. LATCH RELAY

The latch relay controls the latch solenoid. When the relay is energized, it shuts off the solenoid so that the pushbuttons may be latched in. When the relay is turned off, it energizes the latch solenoid. The latch relay is turned on by the credit rings in the credit unit. It will stay energized until the last credit has been played off.

3. LATCH SWITCH

When the switch is closed, it shorts out a resistor that is in series with the latch solenoid. This allows a heavy current pulse to flow through the solenoid so it will have a strong pull at the time the pushbuttons must be unlatched. When the latch solenoid is pulled in all the way, the latch switch opens and removes the short from the series resistor. The resistor now limits the current through the solenoid to an amount sufficient to hold the plunger in but low enough to prevent overheating of the solenoid coil.

4. PUSHBUTTON SWITCHES

These switches are connected through the cable and plugs to the individual segments on the commutators in the automatic search unit. When the pushbutton switches are closed, they complete a circuit to the search segments that can be "found" by the search unit's wipers.

5. END SWITCHES

Top Contacts (closest to the top of the contact stack) These contacts turn on the automatic search unit. The circuit is arranged so that the end switch on the letter pushbutton bank plus the end switch on either number bank must be closed before the automatic search unit will start. The end switch contacts actually control two things — the common connection to the search segments and the selector motor control relay.

Bottom Contacts (closest to the bottom of the contact stack) These contacts provide an auxiliary circuit to keep the latch solenoid energized in case the player holds the pushbuttons down after his selection has been made.

6. PUSHBUTTON RELEASE SWITCH (Upper left hand corner of selector panel)

When this switch is operated, the latch relay is temporarily shut off. This allows the latch solenoid to pull in its plunger and release any pushbutton that is latched in.

7. E.P. SWITCH

The EP switch does not function unless an optional EP switch actuator is installed on the letter pushbutton bank.

The normally closed contacts connect the standard price credit ring (in the credit unit) to the selection system. If the EP switch is operated, only the premium price credit ring will be connected.

The normally open contacts are connected across the cancel stop solenoid in the credit unit. If the switch is operated, the cancel stop solenoid will not operate so credit for a premium priced record will be taken off when the selection is made.

Note: When the EP switch is to be used, the jumper between the normally closed contacts must be removed.

Removing the Automatic Selector from the Phonograph

MODEL K

1. Open front and rear doors of phonograph and slide the record changer all the way to the back.
2. Remove the fabric covered side trim pieces in the record changer compartment.
3. Unplug the cables from the automatic selector.
4. Slip the credit lights off their mounting brackets.
5. Slip off the leads to the pushbutton release switch.
6. Remove the four wing nuts that secure the bottom ends of the selector's mounting brackets to the control panel casting.
7. Remove the retaining clips in the hinge pins at the top of the selector.
8. Slide the hinge pins free of the hinge brackets and lift the selector from the machine.

LYRIC & CONTINENTAL

1. Open front door.
2. Unplug the harnesses and disconnect the pushbutton release switch.
3. Remove the two large screws holding the selector to the front door.
4. Slide the selector free of the mounting stack.

Replacing the Automatic Selector in the Phonograph

When the automatic selector is replaced in the phonograph, its position must be adjusted so that there is the proper relationship between the ends of the metal pushbutton switch shafts and the plastic pushbuttons.

The shafts must support the pushbuttons against their stops, but the selector must not be so close to the pushbuttons that the shafts are partially depressed. If the shafts are partially depressed, or are too far from the pushbuttons, they will not latch and release properly.

MODEL K

In the Model K, the position of the automatic selector is adjusted by means of elastic stop nuts on the four mounting screws. Turning the nuts in — toward the control panel casting — will allow the automatic selector to swing in closer to the pushbuttons. Turning the nuts out will limit the forward swing of the selector and hold the switch shafts away from the pushbuttons.

Important: All four mounting brackets on the automatic selector must bottom against the adjusting nuts at the same time. Otherwise, the frame will be warped when the wing nuts are tightened down. This will interfere with the proper latching and releasing of the pushbutton shafts.

LYRIC & CONTINENTAL

The frame of the automatic selector used in Lyric and Continental phonographs is slotted so that the entire unit may be moved closer to or farther away from the pushbuttons as required. The selector must be level — that is one end must not be higher than the other. The selector will be in perfect position if all the pushbutton switch shafts touch the plastic buttons at the same time without any of the shafts being partially depressed.

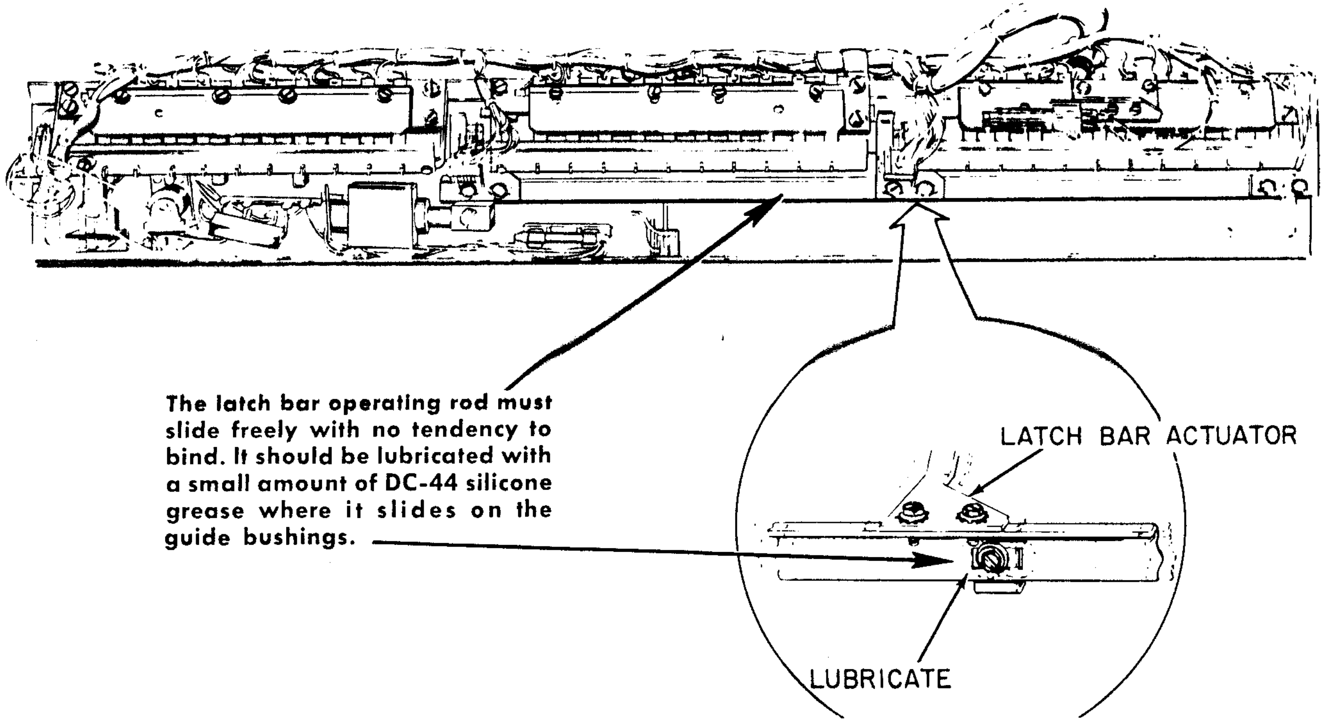
ADJUSTMENTS

Note: The adjustments of the automatic selector should be checked when the selector is free from the influence of the plastic pushbuttons. The unit should either be moved clear of the pushbuttons or removed from the phonograph unless it is absolutely certain that none of the pushbutton switch shafts are depressed.

Check the adjustments of the automatic selector in the following order:

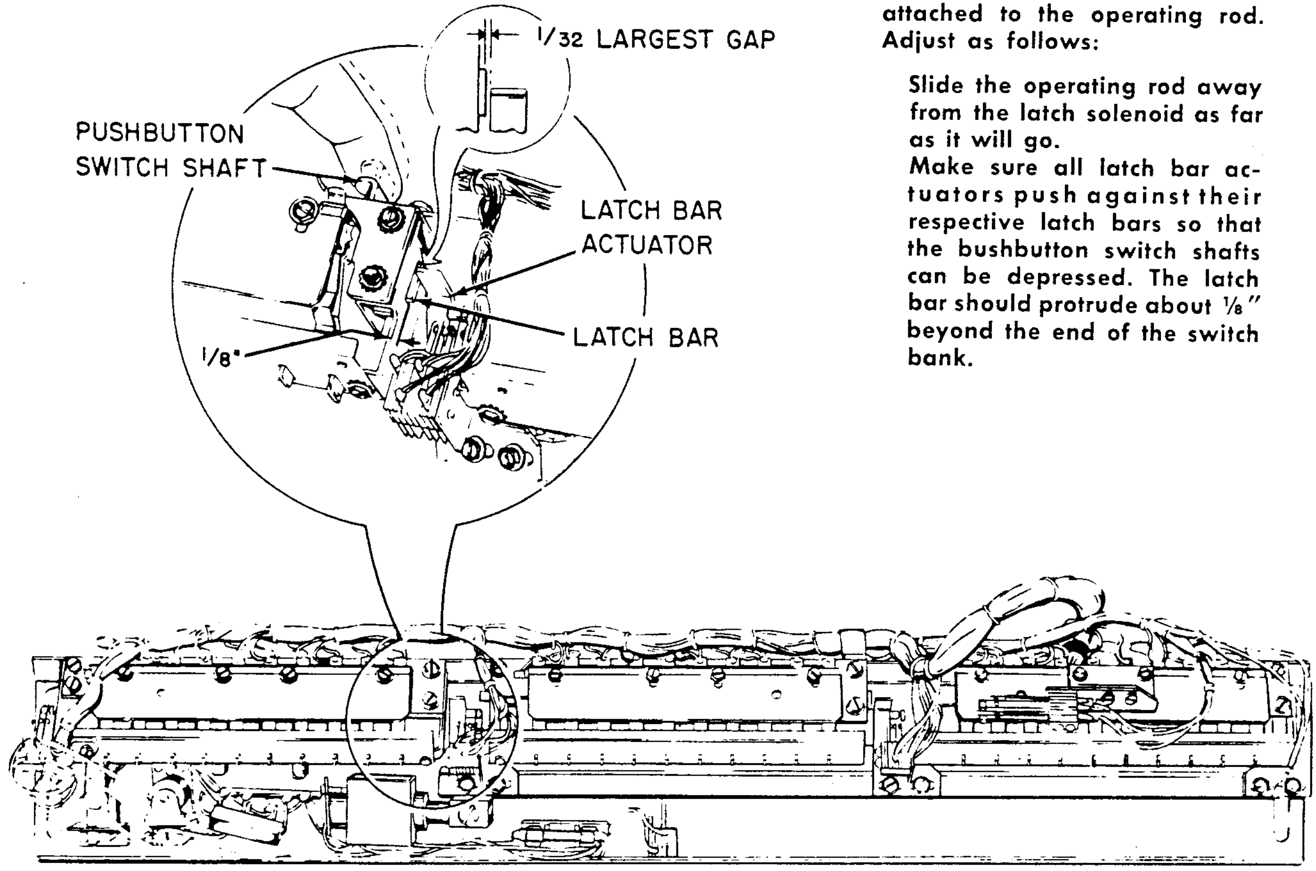
MECHANICAL ADJUSTMENTS

1. THE LATCH BAR OPERATING ROD



The latch bar operating rod must slide freely with no tendency to bind. It should be lubricated with a small amount of DC-44 silicone grease where it slides on the guide bushings.

2. LATCH BARS



Latch Bars

The latch bars in the pushbutton switch banks are adjusted independently of one another by means of the separate actuators attached to the operating rod. Adjust as follows:

Slide the operating rod away from the latch solenoid as far as it will go.

Make sure all latch bar actuators push against their respective latch bars so that the bushbutton switch shafts can be depressed. The latch bar should protrude about 1/8″ beyond the end of the switch bank.

Depress a pushbutton switch slowly and observe the gap that appears between the end of the latch bar and the actuator. At one point in the travel of the shaft, the gap will reach a maximum. Further travel of the shaft will cause it to latch in and the latch bar will snap back against the actuator.

Hold the pushbutton switch shaft in the position that produces the largest gap between the latch bar and the actuator and adjust the actuator so that this gap is 1/32″. This is about thickness of an ordinary paper match. As a check, slip the cover of a paper match book between the end of the latch bar and the actuator. All the pushbutton switch shafts should still latch and release properly.

Follow this procedure for each pushbutton bank.

3. LATCH SOLENOID

Latch Solenoid
The plunger of the latch solenoid must have 1/64" to 1/32" over travel beyond the point where the pushbutton switch shafts are released.

Adjust as follows:

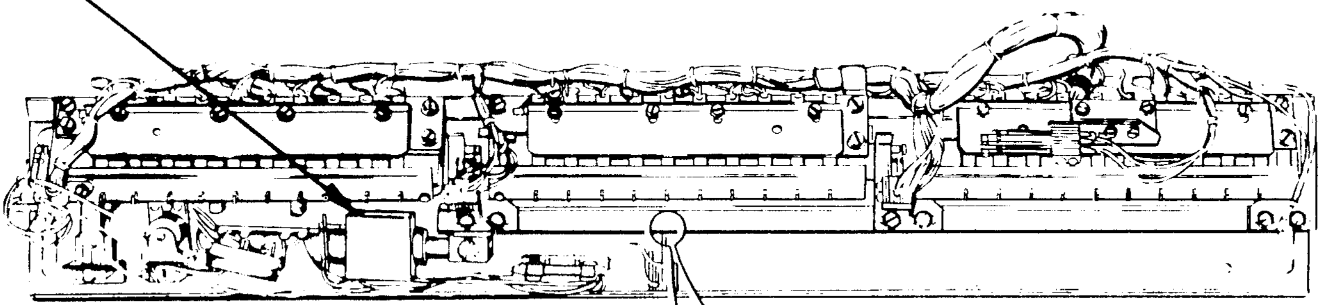
Loosen the mounting screws holding the solenoid to the main frame (In the Model K selector, it will be necessary to remove the light reflector, which overlaps the solenoid, in order to reach the solenoid mounting screws.) and slide the solenoid in toward the center of the selector.

Latch in a pushbutton switch shaft in the bank that exhibits the largest gap between the bar and its actuator as described above.

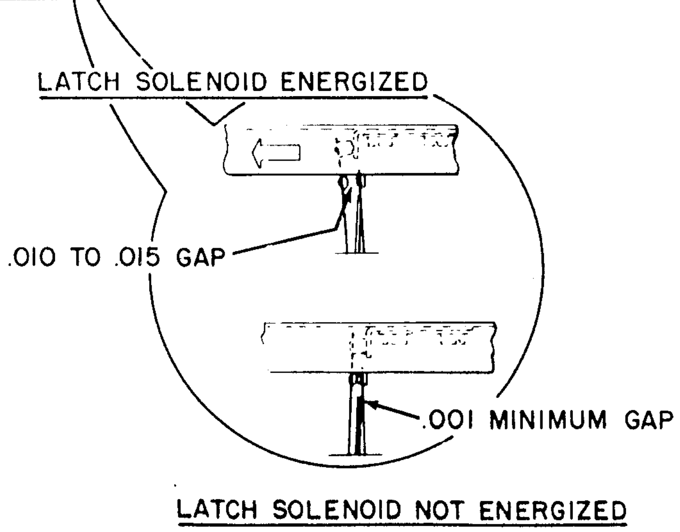
Pull the plunger all the way into the latch solenoid. Holding the plunger in, slide the entire solenoid out (toward the end of the selector) until the pushbutton switch shaft is released. Slide the solenoid out 1/64" more and tighten the mounting screws.

Make sure the solenoid is level so that the plunger will not tend to bind in the core.

Check the over travel of the plunger carefully by operating the plunger slowly by hand to unlatch shafts in each bank.



4. LATCH SWITCH

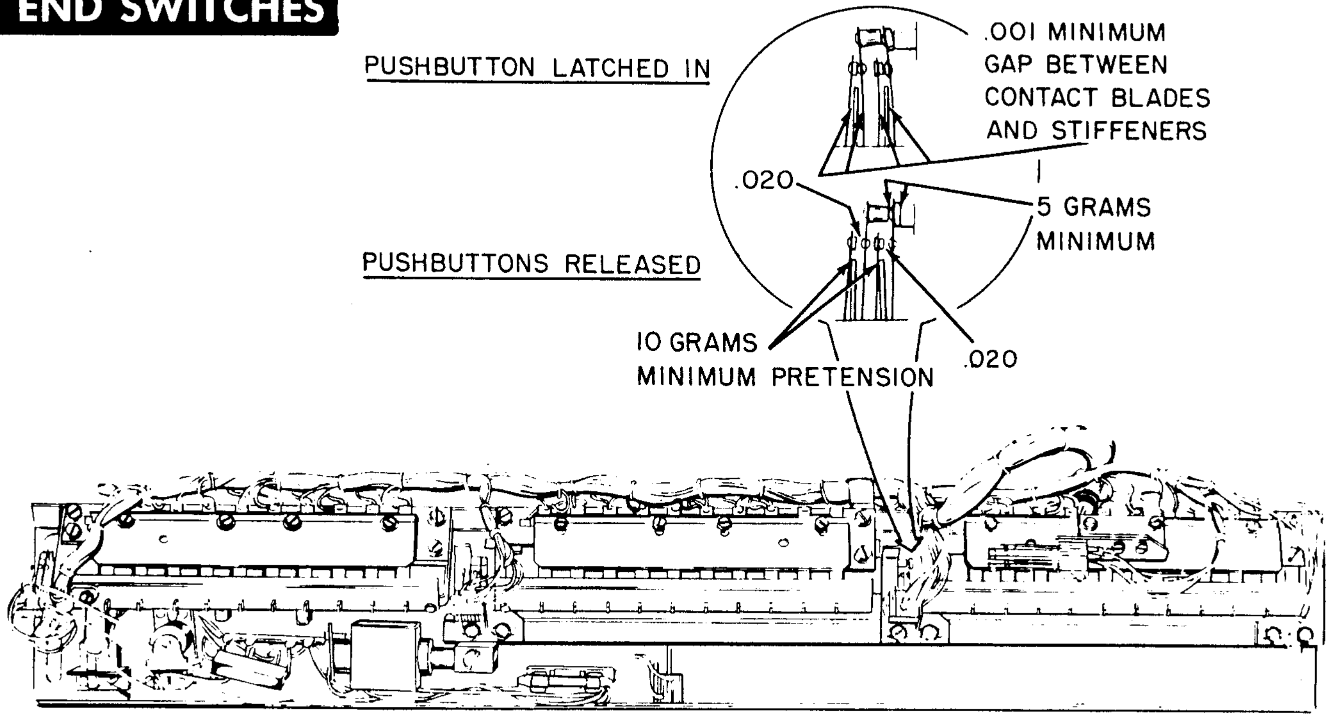


Latch Switch
When the latch solenoid is not energized, the latch switch must be closed. As the contacts close, the non-moving switch blade must deflect at least .010.

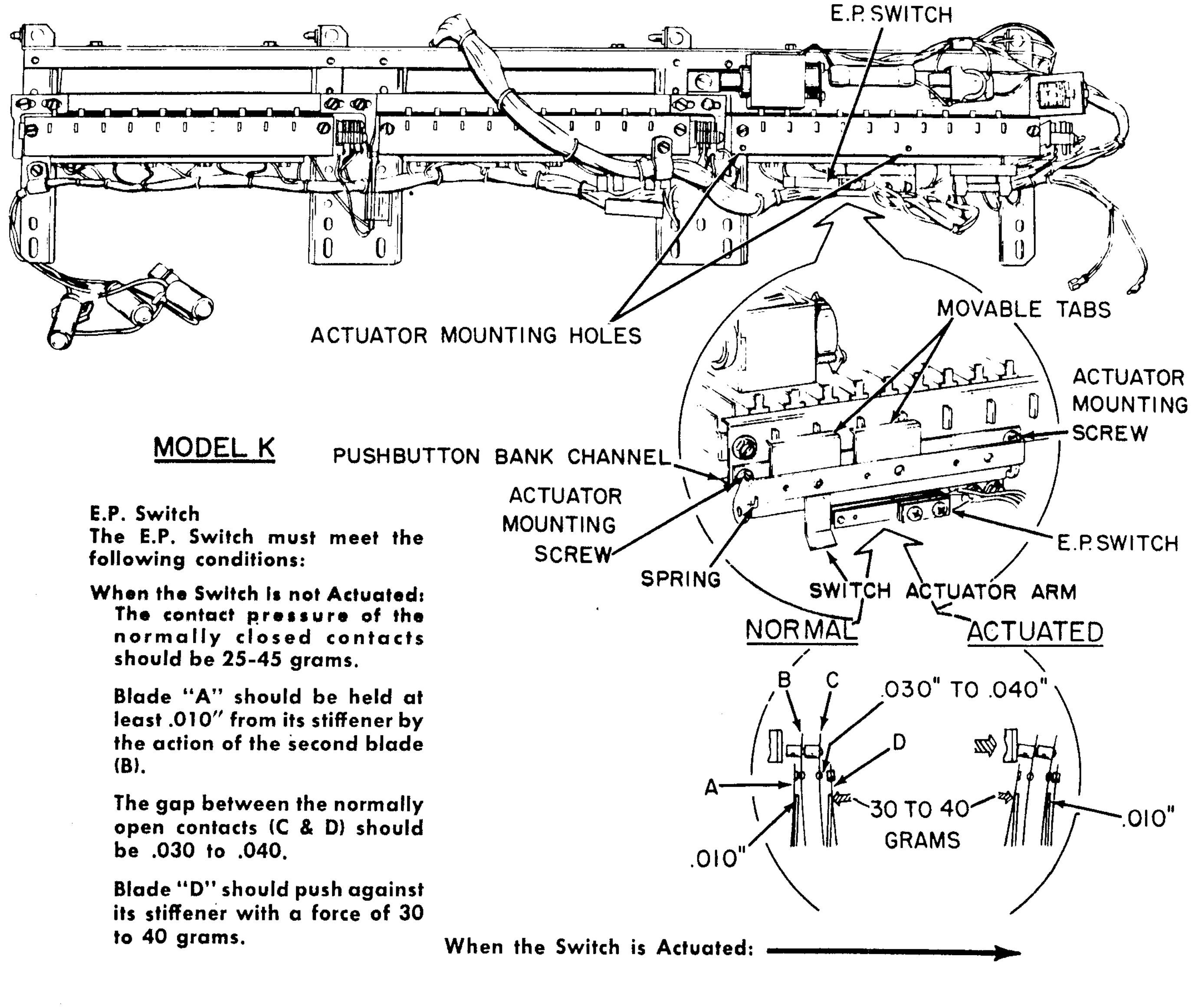
When the latch solenoid is energized, the latch switch must be open. The gap between the contacts .010 to .015.

Adjust the operating point of the switch by twisting the switch mounting bracket.

5. END SWITCHES


PUSHBUTTON LATCHED IN
.001 MINIMUM GAP BETWEEN CONTACT BLADES AND STIFFENERS
.020
5 GRAMS MINIMUM
PUSHBUTTONS RELEASED
10 GRAMS MINIMUM PRETENSION
.020

6. E.P. SWITCH



MODEL K

E.P. Switch
The E.P. Switch must meet the following conditions:

When the Switch is not Actuated:

The contact pressure of the normally closed contacts should be 25-45 grams.

Blade "A" should be held at least .010" from its stiffener by the action of the second blade (B).

The gap between the normally open contacts (C & D) should be .030 to .040.

Blade "D" should push against its stiffener with a force of 30 to 40 grams.

When the Switch is Actuated: →

When the Switch is Actuated:

Blade "D" should be moved at least .010" from its stiffner by the action of the moving contact (C).

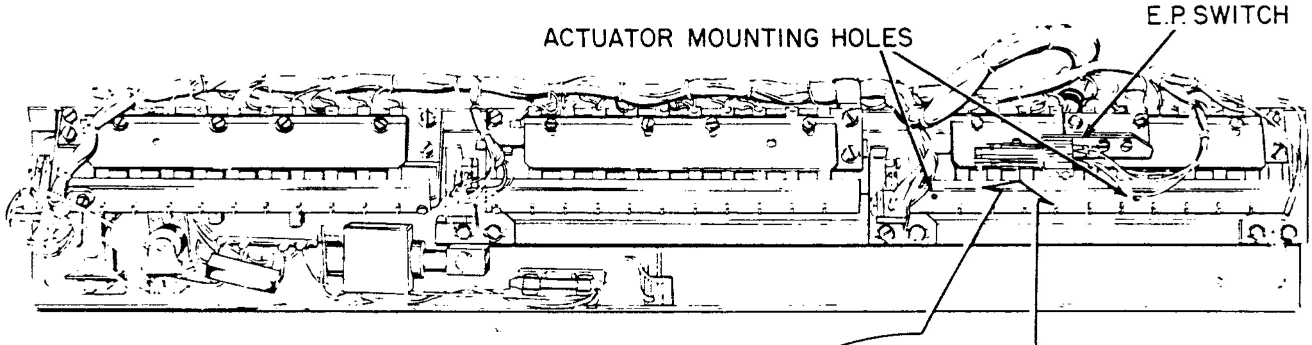
Blade "A" should push against its stiffener with a force of 30 to 40 grams.

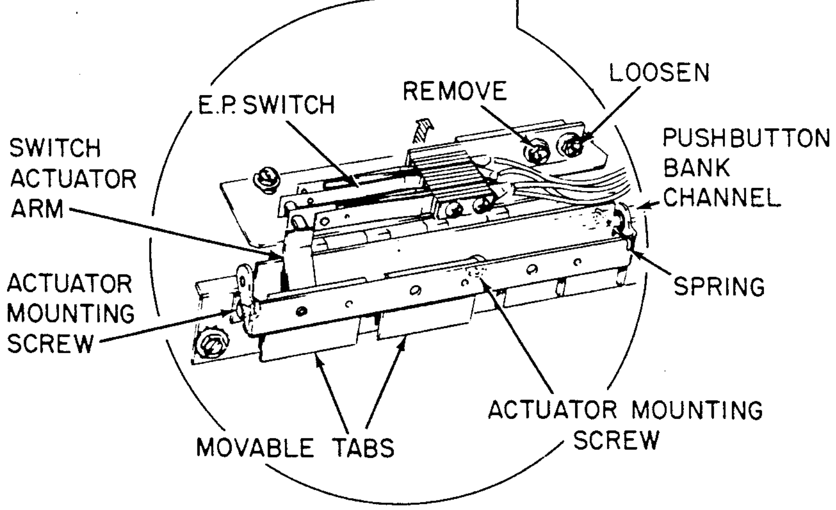
Contacts (A & B) should be open.

During the operation of an "E.P." pushbutton, the blades (A & B) on the "E.P." switch should open before the outside pair on the starting switch at the end of letter bushbutton bank closes. The operating point of the "E.P." switch is adjusted by bending the tab on the switch actuator as necessary.

7. E.P. SWITCH ACTUATOR

This actuator can be obtained from your AMI distributor. Movable tabs on the actuator make it possible for from 2 to 6 letter pushbuttons to be classified as "E.P." or "STEREO". There is no adjustment to the actuator except to make sure it operates without binding, and that it is operated by the desired pushbuttons.





LYRIC and CONTINENTAL

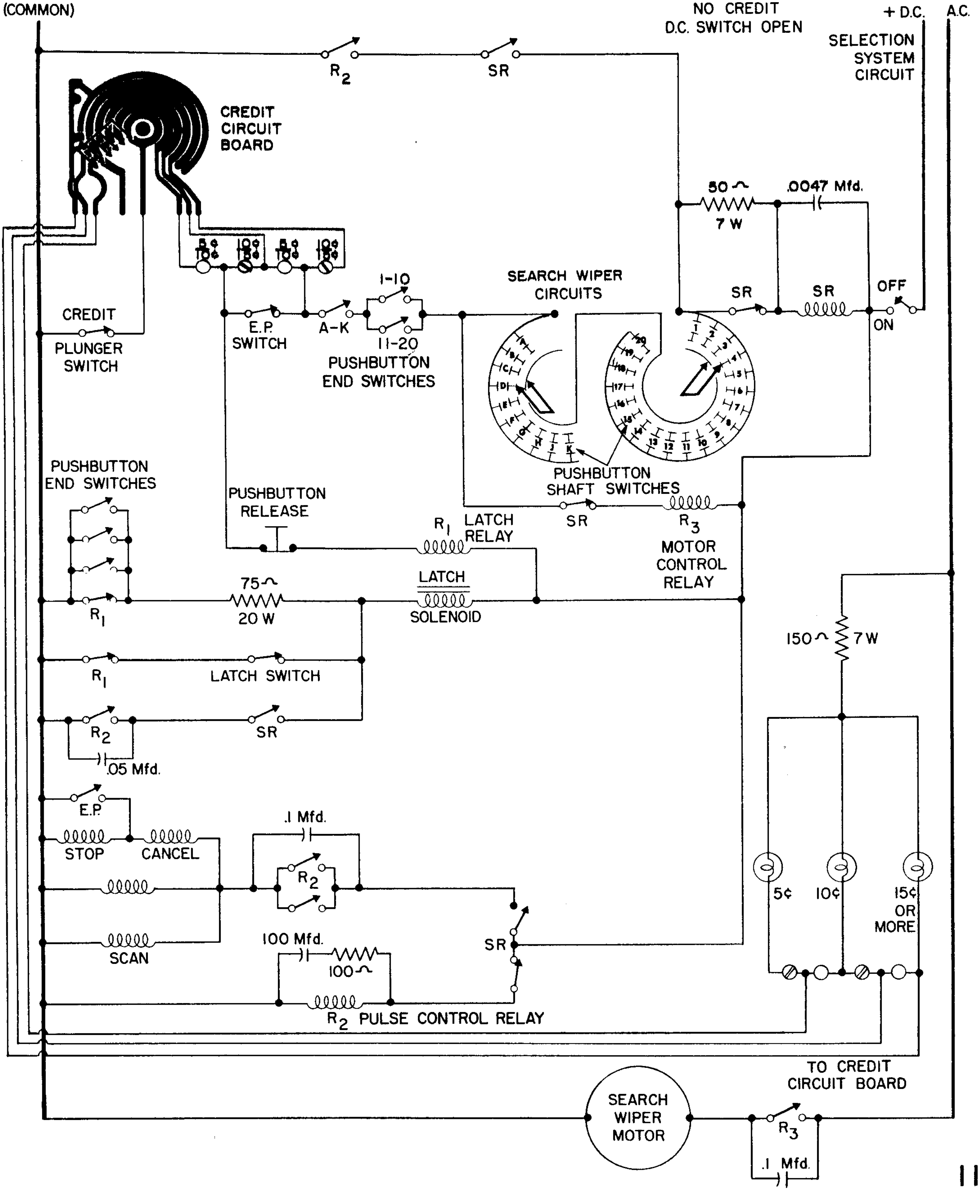
Model K application is shown on lower part of page 9

E.P. Switch Actuator
Both applications, Model K, LYRIC and CONTINENTAL Models, of the actuator is shown here. Note that the position of the actuator, in relation to the switch, is reversed in the two applications. Make sure the movable tabs are over the desired pushbuttons. As the actuator is located against the pushbutton bank channel, be sure to hook the rear end of the spring (left end of actuator on model K — right end on LYRIC and CONTINENTAL) over turned edge of pushbutton bank channel.

In LYRIC and CONTINENTAL applications, remove the mounting screw indicated and rotate switch assembly out of the way so that the actuator assembly may be attached with its two screws. Reposition both, the switch and actuator, before tightening any of the mounting screws.

EARLY MODEL K
R-2358-A R-2358-C

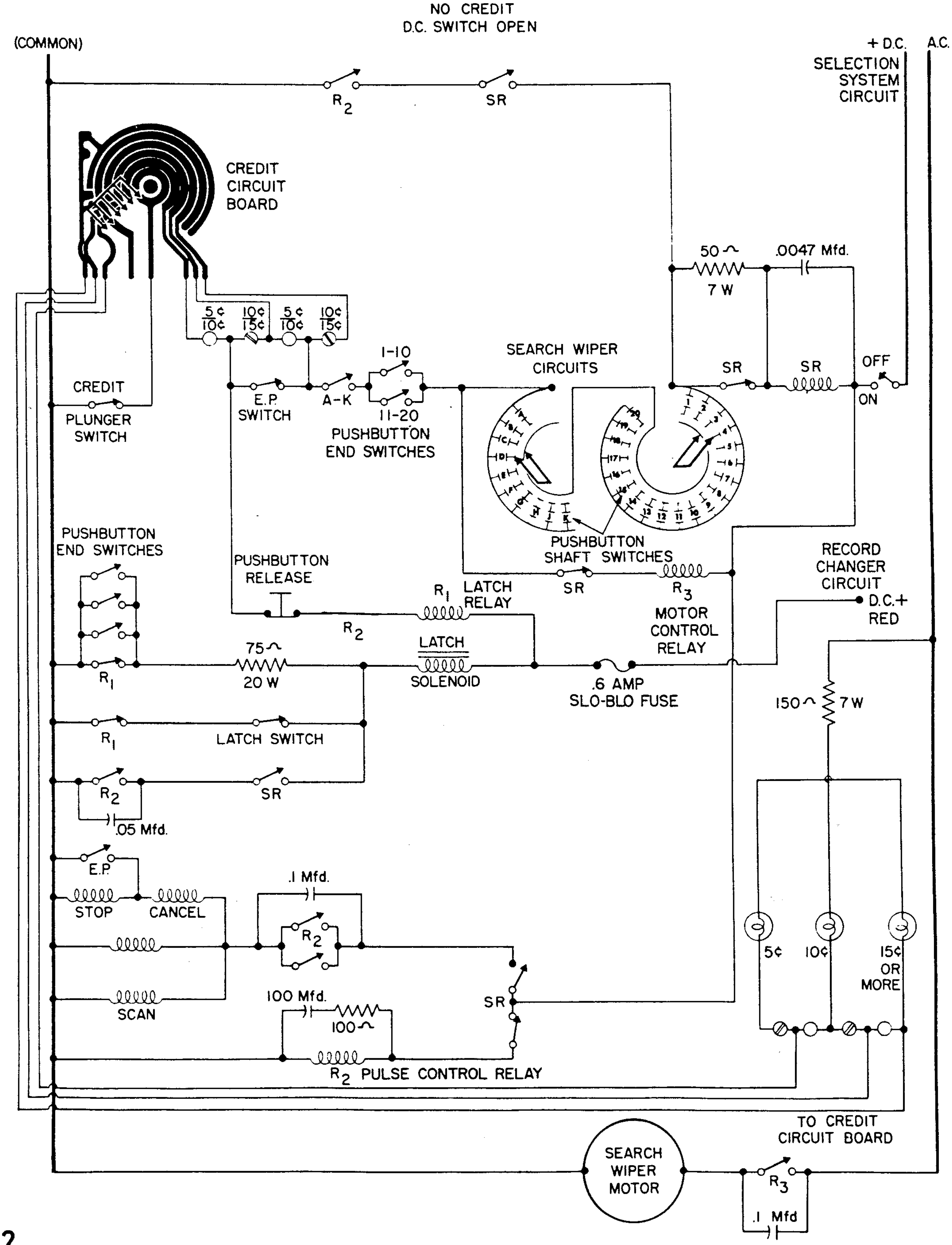
SCHEMATIC CIRCUIT DIAGRAM FOR 200A and 100A NO REMOTE CONTROL



LATE MODEL K

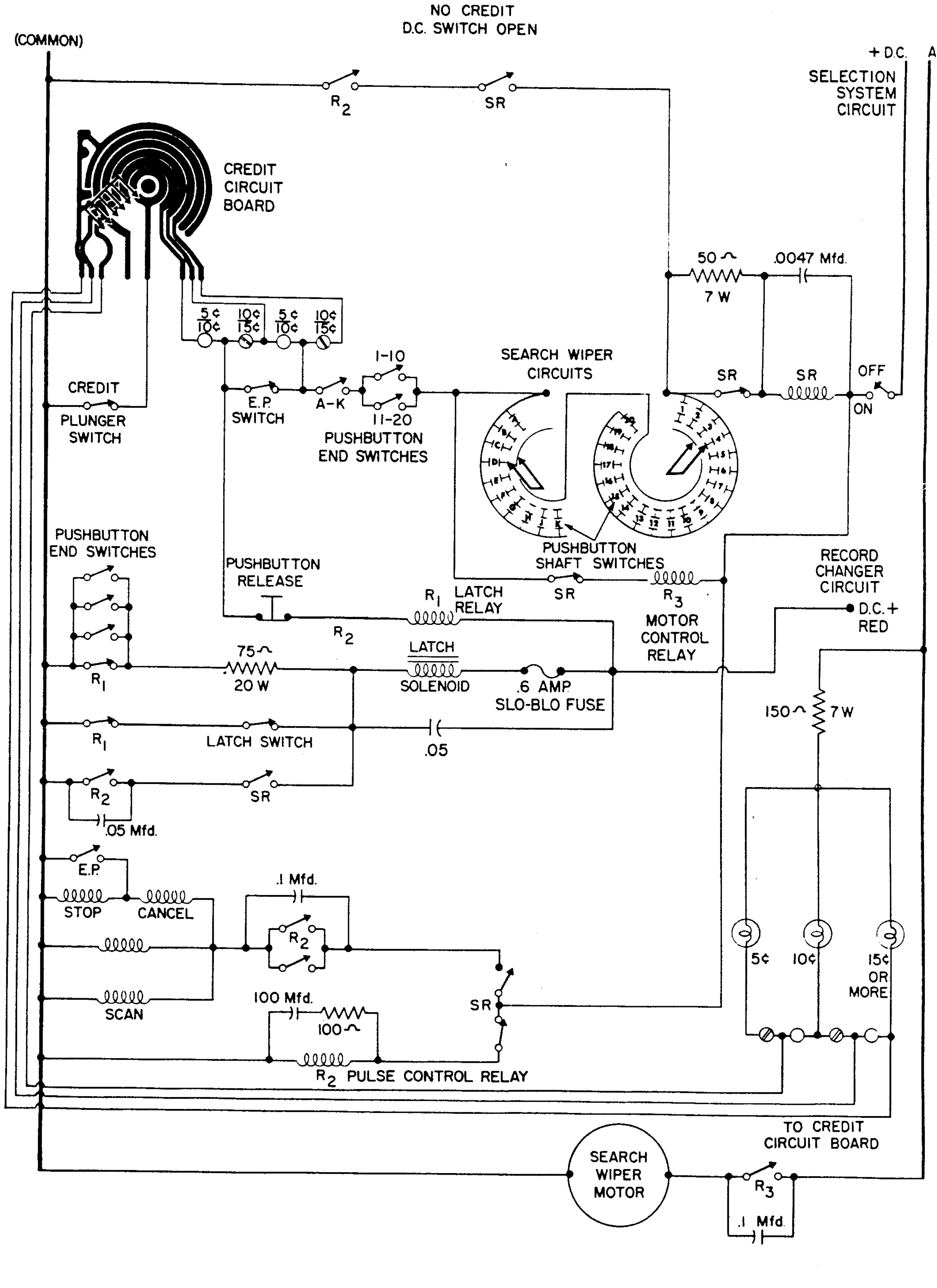
R-2358-A R-2358-C

SCHEMATIC CIRCUIT DIAGRAM FOR 200A and 100A NO REMOTE CONTROL



LYRIC and CONTINENTAL
R-1865-A R-1865-B

SCHEMATIC CIRCUIT DIAGRAM FOR 200A and 100A NO REMOTE CONTROL



THIS DIAGRAM APPLIES ONLY TO THOSE PHONOGRAPHS STARTING WITH THE FOLLOWING SERIAL NUMBERS

LYRIC Automatic	**615611**
LYRIC Automatic Stereo	**620101**
LYRIC Manual	**605111**
CONTINENTAL Automatic	**595881**
CONTINENTAL Automatic Stereo	**600501**
CONTINENTAL Manual	**585031**

SCHEMATIC CIRCUIT DIAGRAM FOR 200A and 100A

RECEIVER R-2405 F-200

R-1865-E 200 R-1865-F 100 **G-100**

NO REMOTE CONTROL